UNITED STATES PATENT OFFICE.

GEORGE EASTWOOD, OF NORWICH, ENGLAND.

STEREOTYPING.

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To all whom it may concern:

Be it known that I, GEORGE EASTWOOD, of Norwich, England, have invented certain new and useful Improvements in Stereotyping, of which the following is a specification.

The object of my invention is to improve the process or art of producing matrices or molds for stereotyping and more particularly to dispense with the present unsatisfactory methods of and appliances for beating the type with brushes or rolling or mangling it in order to obtain an impression upon the flong; to avoid handling the flong or matrix when in a moist condition, and to avoid heating the type in order to dry the matrix.

By means of my invention hereinafter described I save time, (which is a very important point,) prevent contraction of the matrix and produce almost simultaneously a solid even impression or matrix by means of one machine, whereas the processes or methods hitherto followed for the production and drying of matrices have required two and in some cases three separate machines or appliances.

According to my invention I partially dry the flong before the impression of the type is taken whereby superfluous moisture is driven out and the adhesive and other substances of which the flong is composed are consolidated, and I take the impression while the flong is hot and is in the act of consolidating. I effect the impression by means of a platen which presses the flong upon the type or form when this is in position upon a type bed, and I so connect the flong with the platen that when the platen rises after the impression the flong, or the matrix as it has now become, is automatically lifted from the form, all handling of same being thus avoided. I effect the drying of the matrix while suspended or held between the platen and the type bed, which latter according to my invention constitutes the top of a heating chamber.

My invention includes a special construction of apparatus as hereinafter described and shown in the drawings, whereby the above described stages or steps in the production and drying of a matrix can be carried out.

In the accompanying drawings:—Figure 1 is a central longitudinal section of an apparatus constructed according to my invention. Fig. 2 is an end elevation of the apparatus. Fig. 3 is a section of the apparatus on line 3—3 of Fig. 1 looking toward the left. Fig. 4 is a plan partly in section on the line 4—4 of Fig. 1. Fig. 5 is a perspective view of the rectangular frame which carries the flong, the flong being seen in the frame which is shown partly opened. Figs. 6 and 7 are fragmentary views on a larger scale showing in end view and side view respectively the connection of one of the guides or slideways *c* with the platen, the piston box *h* being in section in Fig. 6.

Referring to the drawings, *a a* are side frames connected together by transverse bars or stays *b b*, a block or bed *c* and a head *d*.

Above the block or bed *c* is a heating chamber *e* the top or upper surface of which constitutes the type bed. This chamber can be heated in any suitable manner. In the particular apparatus shown in the drawings it is heated by means of gas the burners of which are seen at *f* placed in a longitudinal opening *g* at the bottom of the chamber *e*. The burners *f* are not shown in Fig. 1.

In the chamber *e* are three transverse flues h' h^2 h^3 (the number of which is however arbitrary) which communicate at their ends with vertical passages *i i* leading to openings *j j* in the tops of the sides of the heating chamber. The ends of the flues h' h^2 h^3 can be more or less closed as required in order to regulate the outflow of heated air therefrom by means of slides or shutters *k k* which can be moved up or down by means of pinions *l l* gearing with racks *m m* on the slides, the said pinions being operated by hand wheels *n n* mounted on the pinion spindles.

In order to prevent the entire closing of all the flues the central flue h^2 which is shown at a higher level than the others has small supplementary horizontal ways *p p* at the upper part.

q is the form of type shown in the position it occupies while the mold or matrix is being taken. It is moved into position along the feed table *r* its inner end coming against the stops or gages *s* while the proper adjustment or register sidewise is insured by the adjusting screws *t t* in one side of the form, these screws being made to bear against the side frame *a*.

Above the heating chamber *e* is a platen *u* which can be lowered and raised as required.